



ICAR-Indian Institute of Spices Research
Marikunnu (P.O.), Kozhikode, Kerala, India

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SAARC Regional Expert Consultation Meeting Held at ICAR IISR

The Regional Expert Consultation Meeting on Technology Sharing of Spice Crops in SAARC Countries, jointly organized by ICAR- IISR and SAARC Agriculture Centre, Dhaka was held at ICAR-IISR during 11-13 September, 2017. The event was inaugurated by Dr. P. Rajendran, Hon'ble Vice Chancellor, Kerala Agricultural University. Dr. Pradyumna Raj Pandey, Senior Program Specialist (Crops), SAARC Agriculture Centre (SAC), Dhaka explained the concept, purpose and objectives of the meeting. Dr. K. Nirmal Babu, Director, ICAR-IISR, Kozhikode underlined the importance of knowledge sharing on spices among the SAARC members. The Technology Exhibition Pavilion was inaugurated by Smt. Geetha, Principal Agricultural Officer, Department of Agriculture, Government of Kerala. The three day meeting was attended by scientists and policy makers from Afghanistan, Bangladesh, Sri Lanka, Bhutan, Nepal and India which also included country-wise presentations and brainstorming session on policy and technological interventions for spices value chain development in South Asia.

Dr. P. Rajendran, Hon'ble Vice Chancellor, Kerala Agricultural University
inaugurating the SAARC Regional Expert Consultation Meeting



Delegates of SAARC Regional Expert Consultation Meeting

RESEARCH UPDATE

***Methylobacterium* - a novel PGPR with biocontrol potential against fungal pathogens of ginger**

Pink-pigmented facultative methylotrophic (PPFMs) bacteria, *Methylobacterium* spp. were isolated from ginger phyllosphere and tested for antagonistic activity against ginger pathogens viz., *Pythium*, *Sclerotium*, *Colletotrichum*, *Fusarium* and *Macrophomina*. Among the 60 *Methylobacterium* isolated and evaluated, three isolates showed more than 75% inhibitory effect on all the pathogens tested. They were also found to produce hydrolytic enzymes such as phosphatase and chitinase.



A) *Methylobacterium* colonies and B) Phosphatase activity of *Methylobacterium* sp.

Screening endophytic bacteria associated with vanilla for plant growth promotion



Isolate VREN1 showing siderophore activity

Forty endophytic bacteria from vanilla were studied for their plant growth promoting traits. Among the isolates, VREN1 showed maximum siderophore activity and antagonistic activity against *Fusarium* sp. under *in vitro* conditions.

“Trichorhizosphere” of black pepper

Whole genome rhizosphere soil metagenomics by Illumina Hi seq sequencing platform on probiotic application of *Trichoderma harzianum* MTCC 5179, in black pepper cultivation system was elucidated. The population dynamics and functional richness of rhizosphere microbiome in black pepper influenced by the treatment with *T. harzianum* suggested that as mycorrhizosphere, another micro-ecological niche - ‘Trichorhizosphere’ also coexists in altering the community dynamics of bacteria and soil fungi.

Host genotype specific R genes for *Phytophthora* in black pepper

Genotype specific R gene mediated resistance was studied in black pepper for *Phytophthora*. Piper R gene Loci viz., PnCNBS1, 3 & 4 were found to be associated with the resistance while, the loci PnCNBS5 & PnCNBS2 were found to be the susceptibility (S) genes. These R genes will be the valuable source to develop closely linked molecular markers and also in recent gene editing platform towards developing resistant varieties for *Phytophthora* foot rot.

PERSONALIA

Awards/ Honours/ Recognitions

Sasikumar B

Dr. B. Sasikumar received the ‘Karshaka Bharathi Award for farm journalism’ from Shri. V.S. Sunil Kumar, Minister of Agricultural and Farmers Welfare, Govt. of Kerala.



Ankegowda S J

Member, Accreditation of spice nurseries in Karnataka by DASD for the year 2017.

Moderator, SAARC meeting at ICAR-IISR, Kozhikode.

Biju C N

Agricultural expert for the selection of pest scouts and district plant health managers for Kozhikode District, Department of Agriculture, Kerala, 08 September 2017.

Ishwara Bhat A

Subject expert in the DPC under CAS for scientists, ICAR-DFR, Pune, 18 August 2017.

External examiner for the conduct of final viva-voce examination of M.Sc. (Ag.) student, Department of Plant Pathology, KAU, Thrissur, 15 September 2017.

Jayashree E



NASI-ICAR Award for Innovation and Research in Farm Machinery during the ICAR foundation day celebration at NASC Complex, New Delhi, 16 July 2017.

Member, Final Ph.D. viva-voce examination in Food and Agricultural Process Engineering of Ms. Sankalpa, KCAE&T, KAU Tavanur, 22 September 2017.

Prasannakumari N

Rajbhasha Sevi Samman award by Bhasha Samanwaya Vedi at Providence Women’s College, Malaparamba, 21 September 2017.

Suseela Bhai R

Reviewer, European Journal of Plant Pathology.

Participation in Symposia/Seminars/ Workshops/Conferences/Meetings

All Scientists

Sankalp Se Sidhi Programme, ICAR-IISR, Kozhikode, 25 August 2017.

Regional expert consultation meeting-Technology sharing of spice crops in SAARC countries, ICAR-IISR, Kozhikode, 11-12 September 2017.



Ankegowda S J

MGMG programme, Nakur, Suntikoppa, 10 August 2017.

Agri Tech India 2017, Bengaluru International Exhibition Centre, Bengaluru, 28-30 August 2017.

Research and Development Day of TATA Coffee, Pollibetta, Kodagu, 31 August 2017.

Biju C N

Monthly Technology Advice meeting at Project Directorate ATMA, Kalpetta, Wayanad, 24 August 2017.

Deepthi A & Pradeep B

International Workshop on Production, Value addition and Marketing of Jackfruit, Ambalavayal, Wayanad, 09-14 August 2017.

Jayarajan K

National Workshop on Developing a Roadmap for Agricultural Knowledge Management in India, NASC Complex, New Delhi, 27-28 September 2017.

Jayashree E

Working Committee meeting of the Agricultural Production Commissioner, Secretariat, Thiruvananthapuram, 17 August 2017.

John Zachariah T

Meeting organized to brief about the adoption of codex standards of black, white and green pepper, cumin and thyme by Codex Alimentarius Commission, Bolgatty Palace Hotel, Kochi, 02 August 2017.

Kandiannan K

XXIV Nilgiri-Wayanad Planter's Association area scientific conference of UPASI-TRF, Gudalur, Tamil Nadu, 23 September 2017.

Kandiannan K & Sasikumar B

International Symposium on Horticulture: Priorities & Emerging Trends in connection with Golden Jubilee Celebration of ICAR-IIHR, Bengaluru, 4-8 September 2017.

Mohammed Faisal Peeran

National Conference on Emerging Trends in Plant Health Management in Relation to Climate Change, College of Horticulture, Bengaluru, 12-13 September 2017.

Nirmal Babu K

XXV meeting of Central Sub-committee on Crop standards, notification and release of varieties for horticultural crops, Udaipur, 30 June to 01 July 2017.

Meeting in connection with the visit of Shri. Chhabilendra Roul, Additional Secretary (DARE) & Secretary (ICAR), Appangala, Madikeri, 03-05 July 2017.

ICAR Foundation Day & Award ceremony-2017 and Directors' Conference, New Delhi, 16 July 2017.

Meeting on Value chain study of turmeric, Hyderabad, 06-08 September 2017.

XXV meeting of Central Sub-Committee on Crop Standards, Notification and Release of Varieties for Horticultural Crops, New Delhi, 17-20 September 2017.

Prasannakumari N

TOLIC Sub Committee meeting, SBI, Kozhikode, 24 August 2017.

Praveena R

Monthly ATMA meeting, ICAR-IISR, Kozhikode, 22 July 2017. Scientist-Farmer Interface Programme, Kuttiadi, 27 September 2017.

Ratha Krishnan P

Haritha Keralam, MNREG activity of seedling production, Block Panchayat, Kozhikode, 21 July 2017.

National Consultation on Farmer organizations: Status and Prospects, Bengaluru, 25-26 July 2017.

KVK Midterm Review (Zone IX), KAU, Thrissur, 04 August 2017.

RADIO TALK

Manoj P S

Bush pepper for homestead, AIR, Kozhikode, 19 September 2017.

EXTENSION ACTIVITIES

Ankegowda S J

Visited black pepper and cardamom plantations in Pachalur Pattiveeranpatti (Tamil Nadu), Spice Park, E-Auction centre, cardamom/black pepper processing units and sterilization unit, Puttady and Thekkan farm, Kanchiyar, Idukki (Kerala), 24-28 September 2017.

Biju C N

Visited District Agricultural Farm, Koothali, Kozhikode to ascertain the health status of black pepper in nurseries and to provide technical advice, 06 July 2017.

NEWS AND EVENTS

Sankalp Se Siddhi Programme

'Sankalp Se Siddhi'- Determination to Attainment Programme was organized by Krishi Vigyan Kendra, Kozhikode at ICAR-Indian Institute of Spices Research on 25 August 2017. Sri. M. K. Raghavan, Hon'ble Member of Parliament, Kozhikode inaugurated the programme which was attended by 500 participants. A video documentary on the initiatives of Central Government for farmer's welfare was screened during the occasion. Farmers took a pledge to adopt sustainable, scientific and socially desirable practices to ensure fast development and progress of the nation. Shri. Babu Parassery, District Panchyath President and Shri. Pradeep Kumar, MLA Kozhikode North addressed the gathering. Successful farm models and farming ventures were presented by Dr. B. Sasikumar, Head, Division of Crop Improvement and Biotechnology and Dr. T.E. Sheeja, briefed about the economic potential of commercialization of agricultural and allied technologies. An exhibition on technological inputs developed by ICAR-IISR and value added products of self help groups were also held.



Shri. M.K. Raghavan MP inaugurating Sankalp Se Siddhi Programme at ICAR-IISR, Kozhikode

July - Sept. 2017



Swachhta Hi Seva at ICAR-IISR

The Swachhta Hi Seva – 2017 fortnight was observed at ICAR-IISR, Kozhikode during 15 September to 2 October 2017. At ICAR-IISR headquarters, the fortnight celebration was inaugurated by Dr. K. Nirmal Babu, Director during which, the Swachhta pledge was administered. Dr. C.K. Thankamani, nodal officer, briefed about the programmes proposed to be conducted during the fortnight. At ICAR-IISR Experimental Farm, ICAR-Krishi Vigyan Kendra, Peruvannamuzhi and ICAR-IISR Regional Station, Appangala respective heads administered Swachhta pledge to the staff. An awareness programme on sanitation and mosquito eradication was organized. As a part of specific activities, Sewa Divas was observed on 17 September 2017. A toilet facility was established for the residents of Pannikkottur Harijan Colony, Kozhikode as a part of Shramadan. The Sarwatra Swachhta (Cleaning of public place) was organized on 25 September 2017 and a cleaning campaign was organized

at Kozhikode beach on 1 October 2017. The staff of ICAR-IISR KVK and experimental farm Peruvannamuzhi, organized cleaning programmes at Wild Life Rehabilitation Centre, Peruvannamuzhi and garden near Peruvannamuzhi dam. The valedictory function of Swachhta Hi Seva - 2017 was held on 2 October, 2017. Sri. Dileepkumar, Health Inspector, Kozhikode Corporation graced the occasion. In order to spread the message of clean and green environment, programmes including planting of nutmeg, cinnamon and avenue trees were organized. A contingent of volunteers of the institute undertook a cleanliness programme at Government Mental Health Centre, Kuthiravattam. Literary competition in English and local language on “Swachh Bharat- Bridging Gap through Innovation” and “How to keep our campus clean” were conducted at ICAR-IISR Regional Station Appangala and Headquarters, respectively.



Glimpse of various activities as a part of Swachhta Hi Seva – 2017

News from Institute Technology Management Unit

ITM-BPD generated Rs. 2.65 lakhs through testing of manures, fertilizers, bioagents and consultancy field visits. An amount of Rs. 17.0 lakhs was obtained through eight non exclusive licensing of micronutrient technologies of black pepper and cardamom to five entrepreneurs. As a part of BPD activities, the scientists participated and delivered lectures regarding the prospects and business opportunity in spices-based industries organized by Biopark at Thrissur and Kozhikode. The ITM-BPD unit organized an exhibition for technology showcasing to the delegates and industrial partners of Regional Expert Consultation Meeting on “Technology Sharing of Spice Crops in SAARC Countries” during 11-13 September 2017 at ICAR-IISR, Kozhikode. Another exhibition and talk on entrepreneurship was organized during “Sankalp Se Siddhi” meeting on 25 August 2017. Issued non exclusive license for black pepper variety IISR Thevam to Ms. Thabeera, Natura Nursery, Kozhikode.

News from Human Resource Development

A Memorandum of Understanding (MoU) was signed on 14 August 2017 for Academic Interaction with Providence Women’s College, Malaparamba, Kozhikode.





HINDI NEWS

Hindi Workshop

A Hindi workshop was organized at ICAR-IISR, Kozhikode to create awareness in Hindi typing among the staff members on 15 September 2017.

OLIC meeting

The Official Language Implementation Committee meeting was held under the chairmanship of Dr. B. Sasikumar, Head, Division of Crop Improvement and Biotechnology on 25 September 2017.

Publication

Masala Samachar January-March issue, Anusandhan Ke Mukhya Ansh and Official Language Magazine Masaloon Ki Mehak were published.

Hindi Week Celebration 2017

The Hindi Week was celebrated during 14-20 September 2017 with competitions including caption writing, word making, Hindi quiz, noting and drafting, calligraphy, Hindi songs, pick and speak, mock press etc. The Official Language magazine Masaloon Ki Mehak was released by the Chief Guest Dr. R. Surendran (Arsu), Former Head of the Division, Department of Hindi, University of Calicut during the valedictory function held on 20 September 2017.



News from SARANI

SARANI celebrated the Annual Club Day and Onam celebrations - 2017 on 28 and 30 August 2017. Pookkalam, fun games, cookery competition, sports competitions, tug-of-war were held followed by Onasadhya and cultural programmes by the members of SARANI during the occasion. The programme was presided by Dr. K. Nirmal Babu, Director, ICAR-IISR and President SARANI and the Chief Guest for the programme was Shri. Vijayan Mannothe, Retd. JE(AIR). The Merit awards for children of ICAR – IISR employees, who have secured highest marks in the CBSE and State Board SSLC examinations for the year 2016-17 were also distributed during the occasion. Dr. Alwar Memorial Prize instituted for the Best Research Fellow of ICAR- IISR for the year 2017 was awarded to Ms. Deepa. K., Ph. D student of Dr. Sheeja, T.E., Principal Scientist, ICAR-IISR.



DISTINGUISHED VISITORS

Shri. Chhabilendra Roul, Additional Secretary (DARE) & Secretary (ICAR) visited IISR RS, Appangala, Madikeri on 04 July 2017

Shri. Chhabilendra Roul, Additional Secretary (DARE) & Secretary (ICAR) visited IISR Regional Station, Appangala, Madikeri on 4 July 2017. Field visits and exhibition showcasing achievements and success stories of technologies developed by the Institute were arranged. During the occasion, ceremonial planting of nutmeg variety, IISR Keralaashree was done by Shri. Roul. Dr. K. Nirmal Babu, Director, ICAR-IISR and Dr. S.J. Ankegowda briefed the activities and achievements.



Shri. Chhabilendra Roul during his visit to ICAR-IISR Regional Station, Appangala

TRANSFER OF TECHNOLOGY

Technology inputs and Advisory services from ATIC

A total of 274 farmers representing Kozhikode district, 119 from other districts of Kerala and 90 from outside the state availed advisory services from ATIC. A total of 277 students from one school and nine colleges visited the institute as part of study tours. A total revenue of Rs.7,33,384 was generated through the sale of technology inputs like planting materials, micronutrient mixtures, biocontrol agents, farm produce and diagnostic and testing services. Seven groups of farmers attended sponsored exposure visit programmes. Three on campus training programmes for extension functionaries were organized in which 37 officials participated.

Participation in Exhibitions

- Exhibition in connection with International Workshop on "Production, Value Addition and Marketing of Jackfruit" at Ambalavayal, Wayanad, 9-14 August 2017.
- Exhibition in connection with Karshika Mela (Haritham) at Surabhi Auditorium, Perambra, 22-23 August 2017.



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- Exhibition in connection with International symposium and ICAR-IIHR Golden Jubilee Celebrations at ICAR-IIHR Bengaluru, 4-8 September 2017.

Activities of ITM-BPD Unit

During the occasion of the Regional expert consultation meeting "Technology sharing of Spice Crops in SAARC countries" held at ICAR-IISR during 11-13 September, 2017, pepper and cardamom micronutrient mixtures under two brands "MICRONOL" and "GROWIN" manufactured by Linga Chemicals, Tamil Nadu was launched by Dr. P Rajendran, Hon'ble Vice Chancellor, Kerala Agricultural University and Dr. Homey Cheriyan, Director, Directorate of Arecanut and Spices Development.



Launching of black pepper and cardamom micronutrient mixtures by Dr. P Rajendran, Hon'ble VC, KAU and Dr. Homey Cheriyan, Director, DASD

BPD unit also carried out the production of nucleus seed rhizomes of released varieties of ginger in grow bags using single sprouts and pro-tray seedlings in large scale for disease free seed materials.



Disease-free nucleus seed rhizome production of ginger in grow bags

SUCCESS STORY

High curcumin turmeric fetches high price

With the emerging trend of pricing turmeric based on the curcumin content and the presence of several companies offering premium price for turmeric with higher curcumin level, many farmers are increasingly opting to cultivate high curcumin turmeric varieties such as Prathibha, Pragati, Alleppey Supreme etc. A recipient of the Karnataka Rajyotsava Award, Shri. Sayed Nasir Ahmed of Chamarajnagar, Karnataka is one such farmer who grows Prathibha and Pragati varieties exclusively for the premium price these varieties fetches for their high curcumin content. Prathibha and Pragati yields about 4 t/acre (dry) with a curcumin content of 5 and 4.85% respectively. M/s. Sami Labs Ltd., a Bengaluru based multinational health science company, is currently buying the turmeric from Shri. Nasir for their nutraceutical, cosmetic and medicinal products. The company offers a premium price for turmeric with above 3.2% curcumin, says Shri. Nasir. He gets a rate of Rs. 120/- per kg of Prathibha and Pragati. Pragati takes only 180 days to mature while Prathibha's maturity occurs in 200-210 days. The cost of cultivation of turmeric per acre is Rs. 1.40 lakhs and with the offered price of Rs. 120.0 per kg, he gets Rs. 4.80 lakhs

for 4 MT. Shri. Sayed Nasir Ahmed is a progressive farmer by tradition and at present he owns 50 acres. Besides turmeric, he grows gherkin, banana, arecanut etc.



Sri. Sayed Nasir Ahmed at his Prathibha turmeric plot in Chamarajnagar

KRISHI VIGYAN KENDRA

Front Line Demonstration

FLDs on introduction of a high yielding variety of turmeric, IISR Pragati and another on demonstration on production of healthy ginger seed is in progress in farmers fields.



FLD on production of quality ginger seed

Training Programmes

A total of thirty one training programmes attended by 1086 participants were organized for farmers and rural youth including women. Awareness on subjects such as GAP of spice and plantation crops, recent advances in production technology of horticultural crops, value addition of fruits and spices, soil health improvement and importance of soil testing, IPDM in coconut and its intercrops were created among the farmers. Paid trainings on plant propagation techniques, breeding and culture of ornamental fishes were organized besides, a series of training programmes on Nursery establishment and management at various parts of the district.

Other Extension activities

World Honey Day (19 August 2017): Awareness programme on Apiculture for school students and Ex-trainees was conducted, with a total of 85 participants. A farmer-producer group involved in production and sale of honey was also formed on the occasion.



Apiculture awareness programme at KVK

July - Sept. 2017



PUBLICATIONS

Research papers

Agisha V N, Eapen S J, Monica V, Sheoran N, Munjal V, Suseela Bhai R & Kumar A 2017 Plant endophytic *Pseudomonas putida* BP25 induces expression of defense genes in black pepper roots: Deciphering through suppression subtractive hybridization analysis. *Physiological and Molecular Plant Pathology* 100: 106-116.

Agisha V N, Eapen S J, Suseela Bhai R & Kumar A 2017 Detecting and monitoring endophytic colonization by *Pseudomonas putida* BP25 in black pepper (*Piper nigrum* L.) using quantitative real-time PCR. *Journal of Spices and Aromatic Crops* 26(1): 1-7.

Bhat A I, Agath Martin, Arun John, Neethu Issac & Eapen S J 2017 Indian Plant Virus Database-a platform for showcasing research on plant viruses in India. *Current Science* 113(1): 27-29.

Revathy K A & Bhat A I 2017 Complete genome sequencing of *Cucumber mosaic virus* from black pepper revealed rare deletion in the methyltransferase domain of 1a gene. *Virus Disease* 28: 309-314.

Senthil Kumar R, Prasath D, Sharon Aravind, Leela N K, Venugopal M N, Ankegowda S J, Biju C N & Anandaraj M 2017 Evaluation of elite cardamom (*Elettaria cardamomum*) genotypes for yield, quality and resistance to Cardamom mosaic virus. *Journal of Plantation Crops* 45(2): 129-134.

Book chapters

Nirmal Babu, K., Kandiannan, K., Sharon Aravind and Muhammed Nissar. 2017. Improvement of spice crops using conventional and biotechnological approaches. Leela Sahijram *et al.* (Eds.) *Souvenir of the International Symposium on Horticulture: Priorities and emerging trends.* 5-8 September 2017, Bengaluru, India. pp- 51-54.

Popular article

Biju C N & Bhat A I 2017 Diagnostic assays might be the fool-proof method to identify virus-free ginger rhizomes. *Spice India* 30(7): 17-19.

Lijo Thomas & Sasikumar B 2017 IISR Prathibha-The poster girl of Indian turmeric. *Agricultural World* 3(8): 62-65.

Lijo Thomas, Sasikumar B & Srinivasan V 2017 Kerala ginger farmers in search of better profits go to Karnataka and Tamil Nadu. *Spice India* 30(8): 8-10.

Mariya & Aiswarya K K 2017 Parambalil ninnoru vijaya gadha. *Krishyamganam (Malayalam)* 23(2): 40-41.

Mariya, Aiswarya S, Sreenivas & Rachana N P 2017 Sooshma moolakangalute pradhanyam pazham pachakkarikalil. *Krishyamganam (Malayalam)* 23(2): 34-38.

Nirmal Babu K, Kandiannan K, Nissar M & Sharon A 2017 Black pepper column method for orthotropic shoot production. *Nursery Today* 6(5): 40-51.

Praveena R & Lijo Thomas 2017 Injiyude paripalana Murakal. *Ente Harithamuttam (Malayalam)* 1(1): 46-47.

Sasikumar B 2017 Jojo's successful homestead nursery. *Karshakan (Malayalam)* 25(8): 60-61.

Sasikumar B, Lijo Thomas & Srinivasan V 2017 Ginger cultivation is moving out from Kerala to neighbouring states. *Karshakan (Malayalam)* 25(9): 22-23.

Sasikumar B, Lijo Thomas, Sujeesh E S & Hareesh B T 2017 Success story of Mr. Suresh Kumar with Prathibha turmeric as intercrop. *Karshakan (Malayalam)* 25(8): 58-59.

Sasikumar B, Nissar Muhammed V A, Lijo Thomas & Sivaranjini R 2017 Success of allspice!. *Kerala Karshakan (Malayalam)* 63(2): 49-51.

Sasikumar B, Nissar Muhammed V A, Sivaranjini R & Lijo Thomas 2017 Allspice peppered with success. *Agricultural World* 3(9): 28-31.

Sasikumar B, Srinivasan V & Lijo Thomas 2017 High curcumin turmeric fetches premium price. *Spice India* 30(8): 21-26.

Sasikumar B, Swetha V P & Sheeja T E 2017 Adulterants in spices and method to trace out the plant based adulterants in Spices. *Krishi Jagran (Malayalam)* 1(4): 32-37.

Sharon Aravind & Ankegowda S J 2017 Medicinal properties of black pepper. *Krishi Expert (e-journal)* 1-5.

Papers presented in symposia/ seminars/ workshops /conferences

Biochemical characterization of Gram positive bacterial microbiota of vanilla and its evaluation against *Fusarium oxysporum* f.sp. *vanillae*. Paper presented in the National Conference on Emerging Trends in Plant Health Management in Relation to Climate Change held at College of Horticulture, Bengaluru, Karnataka during 12-13 September 2017 (Mohammed Faisal P, Sarathambal C & Alagupalamuthirsolai M).

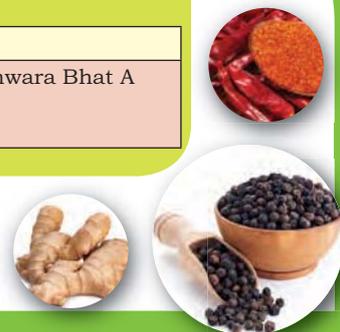
Ph.D. Awarded

Name	Title of thesis	University	Guide
Ms. Prameela T P	Studies on biovar specific diagnostics for <i>Ralstonia solanacearum</i> Yabuuchi (Smith) infecting ginger (<i>Zingiber officinale</i>) and evaluation of apoplastic microbes for biocontrol	Mangalore University	Dr. Suseela Bhai R
Ms. Rosana O B	Identification and sequencing of novel target genes in burrowing nematode (<i>Radopholus similis</i>) and docking studies with naturally occurring compounds	Mangalore University	Dr. Santhosh J Eapen

Ph.D. Dissertations

Student	Topic	University	Guide
Ms. Deeshma K P	Studies on seed transmission and genome sequencing of <i>Piper yellow mottle virus</i> infecting black pepper (<i>Piper nigrum</i> L.)	Kannur University	Dr. Ishwara Bhat A

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M.Sc. Dissertations

Student	Topic	University	Guide
Ms. Athira Pavithran	Quality evaluation of ginger squash during storage	Mahatma Gandhi University, Kottayam	Dr. Jayashree E
Ms. Rithu Susanna K	Shelf life evaluation of ready to serve kokum juice	Mahatma Gandhi University, Kottayam	Dr. Jayashree E

New Appointment

Name	Post	Date of Joining
Ms. Neethu Isaac	JRF (Computer Science), DISC	12.07.2017

Participation in Training

Name	Programme	Institute	Duration
Mr. Muraleedharan P Asst. Admin Officer	Government e-Marketing place (GeM)	National Institute of Financial Management (NIFM), Faridabad	21 to 22 August 2017
Mr. Sayed Muhammed V V Assistant			

Transfer

Name	Designation	From	To
Dr. Jacob T K	Principal Scientist	ICAR-IISR Head Quarters	Experimental Farm, Peruvannamuzhi
Dr. Shivakumar V S	Scientist	ICAR-IISR Head Quarters	Experimental Farm, Peruvannamuzhi
Dr. Muhammed Nissar V A	Scientist	ICAR-IISR Head Quarters	Experimental Farm, Peruvannamuzhi
Dr. Sellaperumal C	Scientist	ICAR-IISR Head Quarters	Experimental Farm, Peruvannamuzhi
Dr. Anees K	Scientist	ICAR-IISR Head Quarters	Experimental Farm, Peruvannamuzhi
Dr. Balaji M Rajkumar	Scientist	ICAR-IISR, Kozhikode	ICAR-IISR, Regional Station, Appangala

Retirement

Name	Post	Date
Mrs. Sarada V P 	Skilled Support Staff (Experimental Farm, Peruvannamuzhi)	30.09.2017

Resignation

Name	Post	Date
Ms. Saranya Balu	SRF, HVC	31.07.2017



हर कदम, हर डगर
किसानों का हमसफर
भारतीय कृषि अनुसंधान परिषद
Agri search with a human touch

SPICES NEWS

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